

Name: Answers

Period: \_\_\_\_\_

## 6.2 Representation of Graphs

Write an equation that describes the function.

1) Input,  $x$     Output,  $y$ 

0	$+10$	10
1	$+10$	11
2	$+10$	12
3	$+10$	13

$$y = x + 10$$

2) Input,  $x$     Output,  $y$ 

0	$\times 3$	0
1	$\times 3$	3
2	$\times 3$	6
3	$\times 3$	9

$$y = 3x$$

3) Input,  $x$     Output,  $y$ 

10	$+4$	14
20	$+4$	24
30	$+4$	34
40	$+4$	44

$$y = x + 4$$

4) Input,  $x$     Output,  $y$ 

10	$\times -\frac{1}{2}$	-5
12	$\times -\frac{1}{2}$	-6
14	$\times -\frac{1}{2}$	-7
16	$\times -\frac{1}{2}$	-8

$$y = -\frac{1}{2}x$$

Write a function rule for the statement.

5) The output is eight less than the input.

$$y = x - 8$$

6) The output is double the input.

$$y = 2x$$

7) The output is five times the input.

$$y = 5x$$

8) The output is two more than the input.

$$y = x + 2$$

Find the value of  $y$  for the given value of  $x$ .

9)  $y = x - 8$ ;  $x = 5$ 

$$y = 5 - 8$$

$$y = -3$$

10)  $y = 8x$ ;  $x = 3$ 

$$y = 8(3)$$

$$y = 24$$

11)  $y = 4x - 1$ ;  $x = 10$ 

$$y = 4(10) - 1$$

$$y = 40 - 1$$

$$y = 39$$

12)  $y = \frac{x}{2} + 5$ ;  $x = -4$ 

$$y = \frac{-4}{2} + 5$$

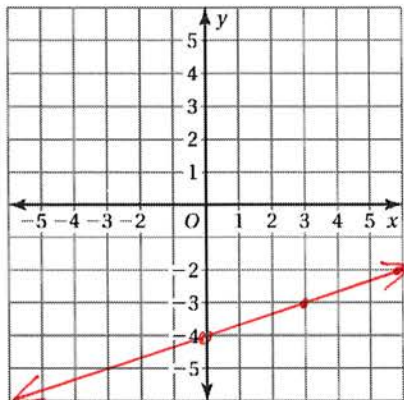
$$y = -2 + 5$$

$$y = 3$$

Graph the function.

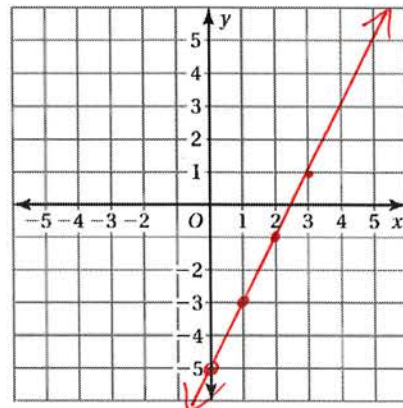
13)  $y = \frac{x}{3} - 4$

$$\begin{array}{c|c} x & y \\ \hline 0 & -4 \\ 3 & -3 \\ 6 & -2 \end{array}$$



14)  $y = 2x - 5$

$$\begin{array}{c|c} x & y \\ \hline 0 & -5 \\ 1 & -3 \\ 2 & -1 \end{array}$$



Find the value of  $x$  for the given value of  $y$ .

15)  $y = 6x - 4$ ;  $y = 20$

$$\begin{array}{r} 20 = 6x - 4 \\ +4 \quad +4 \\ \hline 24 = 6x \\ \frac{24}{6} = \frac{6x}{6} \\ \boxed{4 = x} \end{array}$$

16)  $y = \frac{x}{2} + 3$ ;  $y = 1$

$$\begin{array}{r} 1 = \frac{x}{2} + 3 \\ -3 \quad -3 \\ \hline -2 = \frac{x}{2} \cdot 2 \\ \boxed{-4 = x} \end{array}$$

- 17) You are running at a rate of 6 miles per hour.

a. Write a function that represents the distance  $d$  traveled in  $h$  hours.

b. How many miles do you run in 2 hours?

$$\begin{array}{l} d = 6h \\ d = 6(2) \\ d = 12 \end{array} \quad \boxed{12 \text{ miles}}$$

- 18) The cost of admission for a student is \$4 less than the cost of admission for an adult.

a. Write a function that relates the cost of admission for a student  $s$  with the cost of for an adult  $a$ .

$s = \text{student}$   
 $a = \text{adult}$

$$s = a - 4$$

b. What is the cost of admission for a student when the cost of admission for an adult is \$7.50?

$$\begin{array}{r} s = 7.50 - 4 \\ \boxed{s = \$3.50} \end{array}$$

c. What is the cost of admission for an adult when the cost of admission for a student is \$2?

$$\begin{array}{r} 2 = a - 4 \\ +4 \quad +4 \\ \boxed{\$6 = a} \end{array}$$